



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,844	01/25/2005	Serge Morgoun	21029-00278-US	8738

30678 7590 08/02/2006

CONNOLLY BOVE LODGE & HUTZ LLP
SUITE 800
1990 M STREET NW
WASHINGTON, DC 20036-3425

EXAMINER

PRINCE, FRED G

ART UNIT	PAPER NUMBER
----------	--------------

1724

DATE MAILED: 08/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/500,844

Applicant(s)

MORGOUN, SERGE

Examiner

Fred Prince

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 07-2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 1 recites the limitation "'the raw or mechanically pretreated effluent'" in line

3. There is insufficient antecedent basis for this limitation in the claim.

4. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 1 recites the broad recitation "greater than at least 2 kg COD/kg SM/day", and the claim also recites

“preferably equal to or greater than 4 kg COD/kg SM/day” which is the narrower statement of the range/limitation.

5. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by “such as” and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 1 recites the broad recitation “between 30 and 90 minutes”, and the claim also recites “preferably between 40 and 60 minutes” which is the narrower statement of the range/limitation.

Claims 2-10 are rejected as depending from a rejected claim.

6. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat.

Art Unit: 1724

App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 4 recites the broad recitation "of the order of 0.5 to 2.5 g/l", and the claim also recites "preferably between 0.6 and 1.5 g/l" which is the narrower statement of the range/limitation.

7. Claim 4 recites the limitation "the very high loading sludge" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

8. Claim 5 is considered vague and indefinite because it recites "preferably between about 1.0 and 1.5 g/l" in line 4. It is unclear if the subject matter following "preferably" is part of the claimed invention. For examination purposes, the recited range will be considered optional.

Claim Objections

9. Claim 7 is objected to because of the following informalities: The parentheses around "or extraction" in line 15 should be removed. Appropriate correction is required.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 1724

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claim 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Chudoba (US Pat No 6,254,778).

Chudoba teaches a method for the biological treatment of effluents contaminated with impurities of municipal or industrial origin, characterized in that it employs a single aeration tank (2) with high mass loading in which raw or mechanically pretreated effluent (1) is mixed without prior settling with a free microbial culture of the activated sludge type (7), growing in a lightly aerated medium, of the order of 0.1 to 0.2 Kg O₂/kg BOD₅ removed (col. 5, lines 61-67; col. 6, lines 50-62; col. 8, lines 62-66; col. 9, lines 6-25); the applied organic loading being equal to or greater than at least 2 Kg COD/Kg SM/day, preferably equal to or greater than 4 Kg COD/Kg SM/day, the hydraulic residence time of the raw effluent in the single aeration tank being between 30 and 90 minutes (col. 6, lines 63-67, and preferably between 40 and 60 minutes, and in that, in said single aeration tank a portion of the dissolved carbon pollution and nearly the entire colloidal and particulate fraction of the effluent are biosorbed by the activated sludge floc (col. 1, lines 7-12).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1724

13. Claims 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chudoba in view of Breider (US Pat No 4,442,005).

Chudoba is described above. Chudoba also discloses an intermediate clarifier (6) for recirculation activated sludge and a mixer (3). Chudoba does not disclose the recited control means.

In any case, Breider discloses the well known concept of providing air input means (3a, 3b, 3c, 14) controlled by means for measuring turbidity (22) such that recirculation (col. 6, lines 15-22) of activated sludge is controlled to maintain solid concentration within a preset range.

It would have been readily obvious for the skilled artisan to modify the method of Chudoba such that it includes providing the recited control system in order to, for example, control the concentration of solids within a preset range, as suggested by Breider.

Per claim 6, it is submitted that it is conventional in the art to control the concentration of dissolved oxygen in wastewater in order to, for example, degrade contaminants under desired condition.

Per claims 9 and 10, it is submitted that it is well within the purview of the skilled artisan to place a sensor in a desired location, including within a vessel or between a reactor and a clarifier in order to, for example, measure a desired parameter in a specific location. Accordingly, it would have been readily obvious for the skilled artisan to modify the method of Chudoba, as modified by Breider, such that it includes placing

Art Unit: 1724

the sensor in the vessel in order to, for example, measure a desired parameter in a specific location.

14. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chudoba. Chudoba is described above. Chudoba does explicitly disclose a suspended matter concentration within the recited range.

In any case, it is submitted that it is well within the purview of the skilled artisan to use an aerated tank containing suspended matter within the recited concentration range in order to, for example, treat high-strength sludge (see, for example, US Pat No 4,891,136 to Voyt). Accordingly, it would have been readily obvious for the skilled artisan to modify the method of Chudoba such that it includes suspended matter within the recited concentration range in order to, for example, treat high-strength sludge.

Conclusion


15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References are cited of interest to show the state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Prince whose telephone number is (571) 272-1165. The examiner can normally be reached on Monday-Thursday, 6:30-4:00; alt. Fridays 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1724

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Fred Prince
Primary Examiner
Art Unit 1724

fgp
7/27/06